TAM Perception of Teachers to Students' Learning Outcomes in Table Tennis Lesson

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Abstrak

Perkembangan ilmu pengetahuan dan teknologi semakin pesat dan merambah ke segala aspek kehidupan. Salah satu upaya pemanfaatan teknologi adalah dengan memanfaatkan berbagai teknologi yang ada dalam memaksimalkan pembelajaran yang sedang berlangsung seperti pada pembelajaran PJOK (pendidikan jasmani, olahraga, dan kesehatan). Tujuan dari penelitian ini adalah untuk menganalisis tenaga pengajar atau guru agar dapat memaksimalkan teknologi dalam kegiatan belajar mengajar, sehingga pendidikan jasmani, olahraga dan kesehatan dapat berjalan secara optimal. Teknik pengambilan sampel yang digunakan dalam penelitian ini adalah purposive sampling dengan jumlah 42 guru. Penelitian ini menggunakan (mixed method) dengan desain explanatory. Instrumen penelitian ini menggunakan lembar soal hasil belajar dan lembar observasi. Hasil penelitian ini guru mata pelajaran PJOK lebih dominan dengan kategori baik berdasarkan jenis kelamin yaitu guru laki-laki lebih unggul dan berdasarkan rentang masa kerja yaitu guru dengan masa kerja 1-8 tahun lebih unggul dan model penerimaan teknologi (TAM) pada guru memiliki pengaruh yang signifikan terhadap hasil belajar siswa pada materi olahraga tenis meja. Kemudian teknologi yang terus berkembang memberikan kemudahan dalam kegiatan belajar mengajar untuk pelajaran pendidikan jasmani, olahraga dan kesehatan.

Kata kunci: Pendidikan Jasmani, Tenis Meja, Teknologi

Abstract

The development of science and technology is increasingly rapid and penetrates into all aspects of life. One of the efforts to utilize technology is to use a variety of existing technologies in maximizing ongoing learning such as in PJOK learning (physical education, sports, and health). The purpose of this study is to analyse of teaching staff or teachers in order to maximize technology in teaching and learning activities, so that physical education, sports and health can run optimally. The sampling technique used in this study was purposive sampling with total of 42 teachers. This research uses (mixed method) with explanatory design. The instrument of this study used a learning outcome question sheet and an observation sheet. The results of this study are teachers of PJOK subjects are more dominant with good categories based on gender, namely male teachers are superior and based on the range of years of service, namely teachers with a work period of 1-8 years are superior and the technology acceptance model (TAM) on teachers has an influence which is significant to student learning outcomes on the material of table tennis sports. Then the technology that continues to develop provides convenience in teaching and learning activities for physical education, sports and health lessons.

Keywords: Physical Education, Table Tennis, Technology

1. INTRODUCTION

As time goes by, the development of science and technology is increasingly rapid and penetrates into all aspects of life. Technology that is increasingly progressing requires every individual to be able to adopt and use wisely (Karakis, 2022; Nainggolan & Manalu, 2021; Prabawa & Restami, 2020). Extensive research and progress is evident in the use and role of technology in education in schools that can help teachers present material in a logical, scientific and systematic manner (Deepa et al., 2022; Edwar et al., 2022; Tondeur et al., 2017). Educational Technology has a major role as a scientific discipline that facilitates

learning and efforts that can be made, one of which is changing and adapting learning models or methods with technological developments so that learning runs effectively and efficiently (Andri, 2017; U. N. Pratama & Haryanto, 2018; Purnasari & Sadewo, 2021). With the development and progress of the times, education must also be able to balance and make maximum use of the technology.

One of the efforts to utilize technology is to use a variety of existing technologies in maximizing ongoing learning such as in PJOK learning (physical education, sports, and health). PJOK learning as a learning experience provision to foster better physical growth and development and as an effort in physical fitness and increase students' basic movement abilities (Raibowo & Nopiyanto, 2020; Taufiq et al., 2021). Teacher knowledge and how to apply technology in physical education, sports, and health learning have the potential to provide good teaching and also have a significant impact on pedagogical decision making (Baek et al., 2018; Wyant & Baek, 2019). The rapid development and use of multimedia technology helps the learning process effectively (Kamid, Sabil, et al., 2021). Some examples of the use of technology in PJOK learning, namely google classroom, e-learning and so on can be obtained through smart phones and laptops with the help of an adequate signal network.

Through physical education learning, sports and health that are easily accessible anytime and anywhere, it will have an impact on students' interest and motivation in learning, especially in table tennis. Table tennis is a popular sport as a sport for health, recreation, achievement and education that can be played in a team or individually with games and fast ball movements that can improve motor development and burn calories in the body (Hülsdünker et al., 2019; Purwanto & Suharjana, 2017; Suwo et al., 2021; Wani & Bile, 2021). The factors that influence the success of this table tennis game are factors from within the player and factors from outside the player. Factors that arise from within the player such as physical conditions, techniques, tactics, mental (psychological), while factors that come from outside the player such as facilities and infrastructure, coaches, coaches, family, organization, funds, climate, nutritious food and many more. more others (Kurniawan et al., 2020; Kusnedi & Johor, 2019). In the game of table tennis, the level of focus on the ball until the ball falls is very important to add points and also maintain (Salici, 2020; Taş & Sinanoğlu, 2017). Not only that, understanding the concepts in table tennis game material is also a concern in order to have conceptualized skills.

By understanding the concept of table tennis, it is hoped that students will be able to apply and realize it which creates a learning outcome for each individual. The article is the original article of the research results on the review of the previous article. Physical education has traditionally been considered a practical and hands-on subject in schools, where closeness and physical contact are common, especially in Spain which has a high culture of closeness (Casey & MacPhail, 2018; Varea et al., 2022). Student learning success is in the form of changes in student behavior and learning outcomes which include cognitive, affective, and psychomotor (Hazhar Fachrial et al., 2020; Puspitarini & Hanif, 2019). There are two factors that influence learning outcomes, namely internal and external factors. Internal factors that exist in people who learn include health, intelligence, and talents, interests, and motivations and external factors that come from outside include the family, school, community and environment (Hardani et al., 2021). These factors interact with each other in achieving student learning outcomes and also support student success in learning. So, in this study as an update of previous research that measures the effect of TAM teachers' perceptions on student learning outcomes. Learning outcomes can be measured using a learning. The usability and ease of use of technology is measured by Technology Acceptance Model (TAM) (Hamutoğlu, 2020; Mohammadi, 2015; A. Pratama, 2021).

This study is in line with previous research which discusses the perception of TAM where in particular, perceptions of usefulness and attitudes have a significant influence on student acceptance of m-learning (Gómez-Ramirez et al., 2019). So this research is important. The difference between previous research and current research is that the indicators used in this study are Attitude toward using, Behavioural intention to use, and Actual Use to measure teachers' TAM perceptions in high schools in teaching physical education and table tennis material. The advantages of the current study from previous research here are researchers measuring whether the teacher's perception of TAM affects student learning outcomes. Previous research also discusses the perception of TAM which discusses the TAM model where an expanded TAM model is proposed and tested in this study. Which consists of five constructs, namely: intention to use, perceived usefulness, perceived ease of use, attitudes towards use, and experience in the use of e-learning in mathematics teaching (Mailizar et al., 2021). The difference between previous research and current research is in the subjects discussed where in this study discusses the subjects of Physical Education and sports on table tennis material.

This study was conducted to measure how teachers' perceptions of TAM affect the improvement of student learning outcomes in learning physical and spiritual education (PJOK). Where technology encourages the creation of new scenarios in the learning and teaching process so that teachers must identify, select, analyze, and evaluate the impact of digital devices in order to develop competence in students (Salas-Rueda et al., 2021). So it is important to do this research which is expected to have implications in providing perspectives to teaching staff or teachers in order to maximize technology in teaching and learning activities, so that physical education, sports and health can run optimally. The novelty of this research is the analysis of teachers' perceptions of TAM on student learning outcomes with table tennis game material. The aims of this study were: to determine the effect of TAM's perception on student learning outcomes and TAM's perception of PJOK learning on table tennis game material using technology in high school.

2. METHODS

This research uses a mixed method with an explanatory design. The explanatory design is carried out in several stages of research, starting with data collection, analyzing data and formulating quantitative analysis results, then proceeding with data collection, analyzing and formulating qualitative data, and ending with interpreting the research results (Creswell, 2012). This research was conducted at a high school in Bangko district, Bangko sub-district and Margo Tabir sub-district. The time of the study was carried out from April to June 2021.

The population of this study was obtained from senior high schools located in Merangin District in Bangko sub-district and Margo Tabir sub-district. The sampling technique of this study used purposive sampling with the criteria that the tenure of each teacher consisted of 1-8 years and 9-18 years who taught PJOK subjects in senior high schools in class XII even semesters in Bangko sub-district and 14 teachers with a range of working period of 1-8 years and 10 teachers with a working period of 9-18 from high school in Margo Tabir sub-district. And the criteria for students who are used as samples are active high school students in class XII in even semesters. So, the sample of this research is 42 teachers with 10 female teachers and 14 male teachers from high school in Bangko sub-district and 10 female teachers and 14 male teachers from high school in Margo Tabir sub-district.

The instrument of this study used a learning outcome question sheet and an observation sheet on the teacher's TAM perception of PJOK learning material for table tennis sports which was strengthened by interview sheets for teachers and students. Where the sheet

used consists of the perception that there is a significant influence of teachers on aspects of attitude toward using, behavioural intention to use, and actual use simultaneously on PJOK learning outcomes in Bangko Regency. The valid statement items on this instrument use a Likert scale consisting of 5 points. Each statement is representative of each Indicator. The lattice of the instrument in this research is shown in Table 1. The categories for the TAM variable are presented in Table 2.

Table 1. Instrument Grille

Variable	Indicator	Sub Indicator	Item
TAM	Attitude Toward Using	a. Convenience to Interact b. Happy to Use c. Enjoy Using d. Not Boring	8 Question Items
	Behavioural Intention Use	a. Has Helpful Features b. Always Try to Use c. Continue in the Future	7 Question Items
	Actual Use	a. Usage Time b. Frequency of Use	5 Question Items
Student Learning Outcomes		a. Affective b. Cognitive c. Psychomotor	20 Question Items

Table 2. Categories of TAM Variables and Student Learning Outcomes

Category	Indicator			
	Attitude Toward Using	Behavioural Intention Use	Actual Use	Student Learning Outcomes
Very Not Good	8.0 – 14.4	7.0 – 12.6	5 – 9	1 – 4
Enough	14.5 – 20.8	12.7 – 18.2	10 – 13	5 - 8
Not Good	20.9 – 27.2	18.3 – 23.8	14 – 17	9 – 12
Enough	27.3 – 33. 6	23.9 – 29.4	18 – 21	13 – 16
Good	33.7 – 40.0	29.5 – 35.0	22 - 25	17 – 20

Data analysis of this study used quantitative data analysis with the help of SPSS, to find descriptive statistics and inferential statistics. Descriptive statistics used in the form of a frequency table that presents percent, mean, median, min, and max (Amin, Kurniawan, Septi, et al., 2021). Then proceed with conducting interviews to strengthen the results of quantitative data. Before testing the hypothesis, a prerequisite or assumption test is carried out (Brühl & Reichert, 2021). The assumption test that must be met is the normality test and the linearity test so that the data must be normally distributed and linear. The data is said to be normal if the sig value > 0.05, and the data is said to be linear if the sig value < 0.05 (Amin, Kurniawan, Azzahra, et al., 2021; R.S Budiarti et al., 2021; Retni Sulistiyoning Budiarti et al., 2022). Then after the prerequisite test, the regression test hypothesis can be tested (Janie, 2012). Qualitative data were analyzed based on Miles and Huberman, namely data collection with data analysis. Data reduction is an effort to collect data, then sort the data into units of certain data concepts, and certain themes. In this case the researcher will choose the main things and focus on the things that are important and look for patterns (Kamid, Rohati, et al., 2021). Quantitative data analysis used descriptive statistics and parametric

inferential which was strengthened by the results. Qualitative data analysis was carried out interactively and continued until the end so that the data was saturated. The research procedure chart is presented in Figure 1.
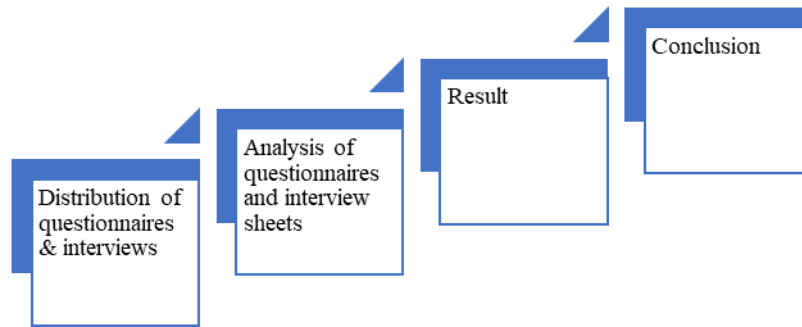

Figure 1. Research Procedure Chart

3. RESULTS AND DISCUSSION

Result

The following describes the results of descriptive statistics on the perception of teachers' TAM variables in senior high schools in Bangko sub-district and Margo Tabir sub-district based on gender. The perception indicators that are statistically described are the teacher's perception of the attitude of using technology, the teacher's perception of the desire to use technology, the teacher's perception of the use of technology in learning. Where the results obtained from the distribution of observation sheets in schools are shown in Table 3.

Table 3. Description of Teacher Perceptions by Gender with Attitudes in Using Technology Indicators

Response	Gender	Interval	F	%	Category	Mean	Med	Min	Max
High Schools in Bangko Sub-district	Female Teachers	8.0 – 14.4	0	0%	Very Not Good				
		14.5 – 20.8	0	0%	Not Good				
		20.9 – 27.2	12	60.0%	Enough	27.5	26.5	23.0	34.0
		27.3 – 33.6	7	35.0%	Good				
		33.7 – 40.0	1	5.0%	Very Good				
	Male Teachers	8.0 – 14.4	0	0%	Very Not Good				
		14.5 – 20.8	0	0%	Not Good				
		20.9 – 27.2	10	41.7%	Enough	28.7	28.5	23.0	34.0
		27.3 – 33.6	11	45.8%	Good				
		33.7 – 40.0	3	12.5%	Very Good				
High Schools in	Female Teachers	8.0 – 14.4	0	0%	Very Not Good	29.7	28.5	24.0	39.0

Response	Gender	Interval	F	%	Category	Mean	Med	Min	Max
Margo Tabir Sub-district		14.5 – 20.8	0	0%	Not Good				
		20.9 – 27.2	5	25%	Enough				
		27.3 – 33.6	11	55%	Good				
		33.7 – 40.0	4	20%	Very Good				
		8.0 – 14.4	0	0%	Very Not Good				
		14.5 – 20.8	0	0%	Not Good				
	Male Teachers	20.9 – 27.2	5	20.8%	Enough	30.6	29.5	24.0	39.0
		27.3 – 33.6	13	54.2%	Good				
		33.7 – 40.0	6	25.0%	Very Good				

Based on the results from Table 3, it can be seen that the category of teacher perception on the attitude indicator of technology use in Bangko high school is more dominant in male teachers, it can be seen from the percentage of good and better, namely 45.8% and 12.5% so that male teachers are superior. Then in SMA in Margo Tabir sub-district, male teachers are more dominant, it can be seen from the better percentage, which is 25% so that male teachers are superior.

Table 4. Description of Teacher Perceptions by Gender with the Indicator of Desire to Use Technology

Response	Gender	Interval	F	%	Category	Mean	Med	Min	Max
High Schools in Bangko Sub-district	Female Teachers	7.0 – 12.6	0	0%	Very Not Good	26.1	25.5	20.0	34.0
		12.7 – 18.2	0	0%	Not Good				
		18.3 – 23.8	12	60.0%	Enough				
		23.9 – 29.4	7	35.0%	Good				
		29.5 – 35.0	1	5.0%	Very Good				
	Male Teachers	7.0 – 12.6	0	0%	Very Not Good	25.9	25.0	20.0	35.0
		12.7 – 18.2	0	0%	Not Good				
		18.3 – 23.8	10	41.7%	Enough				
		23.9 – 29.4	11	45.8%	Good				
		29.5 – 35.0	3	12.5%	Very Good				
High Schools in Margo Tabir Sub-district	Female Teachers	7.0 – 12.6	0	0%	Very Not Good	23.8	23.0	19.0	29.0
		12.7 – 18.2	0	5.0%	Not Good				
		18.3 – 23.8	12	60.0%	Enough				
		23.9 – 29.4	8	40.0%	Good				
		29.5 – 35.0	0	0%	Very Good				
	Male	7.0 – 12.6	0	0%	Very Not	25.0	25.5	19.0	29.0

Response	Gender	Interval	F	%	Category	Mean	Med	Min	Max
	Teachers				Good				
		12.7 – 18.2	0	0%	Not Good				
		18.3 – 23.8	9	37.5%	Enough				
		23.9 – 29.4	15	62.5%	Good				
		29.5 – 35.0	0	0%	Very Good				

Based on the results from Table 4, it can be seen that the category of teacher perception on the indicator of the desire to use technology in SMA in Bangko sub-district is more dominant in male teachers, it can be seen from the percentage of good and better, namely 45.8% and 12.5% so that male teachers are superior. Then in SMA in Margo Tabir sub-district, male teachers are more dominant, it can be seen from the good percentage, which is 62% so that male teachers are superior.

Table 5. Description of Teacher Perceptions by Gender with Indicators of Using Technology in Learning

Response	Gender	Interval	F	%	Category	Mean	Med	Min	Max
High Schools in Bangko Sub-district	Female Teachers	5 – 9	0	0%	Very Not Good	19.3	18.0	16.0	25.0
		10 – 13	0	0%	Not Good				
		14 – 17	8	40.0%	Enough				
		18 – 21	8	40.0%	Good				
		22 - 25	4	20.0%	Very Good				
	Male Teachers	5 – 9	0	0%	Very Not Good	17.7	18.0	10.0	25.0
		10 – 13	1	4.2%	Not Good				
		14 – 17	9	37.5%	Enough				
		18 – 21	12	50.0%	Good				
		22 - 25	2	8.3%	Very Good				
High Schools in Margo Tabir Sub-district	Female Teachers	5 – 9	0	0%	Very Not Good	17.6	18.0	10.0	25.0
		10 – 13	1	5.0%	Not Good				
		14 – 17	8	40.0%	Enough				
		18 – 21	10	50.0%	Good				
		22 - 25	1	5.0%	Very Good				
	Male Teachers	5 – 9	0	0%	Very Not Good	18.0	18.0	14.0	25.0
		10 – 13	0	0%	Not Good				
		14 – 17	10	41.7%	Enough				
		18 – 21	12	50.0%	Good				
		22 - 25	2	8.3%	Very Good				

Based on the results from Table 5, it can be seen that the category of teacher perception on the indicator of the use of technology in learning in SMA in Bangko sub-district is more dominant in male teachers, it can be seen from the good percentage, namely 50% so that male teachers are superior. Then in SMA in Margo Tabir sub-district, male teachers are more dominant, it can be seen from the better percentage, which is 8.3% so that male teachers are superior. Furthermore, descriptive statistical descriptions are based on the teacher's tenure with indicators. Perception indicators that are statistically described are teachers' perceptions of attitudes to using technology, teachers' perceptions of the desire to use technology, and teachers' perceptions of the use of technology in learning.

Table 6. Description of Teacher's Perception based on Work Range Period with Indicators of Attitude to Use of Technology

Response	Working Range	Interval	F	%	Category	Mean	Med	Min	Max
High Schools in Bangko Sub-district	1-8 Years	8.0 – 14.4	0	0%	Very Not Good				
		14.5 – 20.8	0	0%	Not Good				
		20.9 – 27.2	12	60.0%	Enough	27.5	26.5	23.0	34.0
		27.3 – 33.6	7	35.0%	Good				
		33.7 – 40.0	1	5.0%	Very Good				
	9-18 Years	8.0 – 14.4	0	0%	Very Not Good				
		14.5 – 20.8	0	0%	Not Good				
		20.9 – 27.2	10	41.7%	Enough	28.7	28.5	23.0	34.0
		27.3 – 33.6	11	45.8%	Good				
		33.7 – 40.0	3	12.5%	Very Good				
High Schools in Margo Tabir Sub-district	1-8 Years	8.0 – 14.4	0	0%	Very Not Good				
		14.5 – 20.8	0	0%	Not Good				
		20.9 – 27.2	5	25%	Enough	29.7	28.5	24.0	39.0
		27.3 – 33.6	11	55%	Good				
		33.7 – 40.0	4	20%	Very Good				
	9-18 Years	8.0 – 14.4	0	0%	Very Not Good				
		14.5 – 20.8	0	0%	Not Good				
		20.9 – 27.2	5	20.8%	Enough	30.6	29.5	24.0	39.0
		27.3 – 33.6	13	54.2%	Good				
		33.7 – 40.0	6	25.0%	Very Good				

Based on the results from Table 6, it can be seen that the category of teacher perceptions of the attitude indicators of using technology in SMA in Bangko sub-district is more dominant in teachers with a working period of 1-8 years, it can be seen from the percentage of good and better, namely 45.8% and 12.5% and in high school in the sub-district Margo Tabir is more dominant in teachers with a work range of 1-8 years, it can be seen from

the better percentage, which is 25%, so that teachers with a working period of 1-8 years (young) are superior.

Table 7. Description of Teacher Perceptions based on Years of Service with Indicators of Desire to Use Technology

Response	Working Range	Interval	F	%	Category	Mean	Med	Min	Max
High Schools in Bangko Sub-district	1-8 Years	7.0 – 12.6	0	0%	Very Not Good				
		12.7 – 18.2	0	0%	Not Good				
		18.3 – 23.8	12	60.0%	Enough	26.1	25.5	20.0	34.0
		23.9 – 29.4	7	35.0%	Good				
		29.5 – 35.0	1	5.0%	Very Good				
	9-18 Years	7.0 – 12.6	0	0%	Very Not Good				
		12.7 – 18.2	0	0%	Not Good				
		18.3 – 23.8	10	41.7%	Enough	25.9	25.0	20.0	35.0
		23.9 – 29.4	11	45.8%	Good				
		29.5 – 35.0	3	12.5%	Very Good				
High Schools in Margo Tabir Sub-district	1-8 Years	7.0 – 12.6	0	0%	Very Not Good				
		12.7 – 18.2	0	5.0%	Not Good				
		18.3 – 23.8	12	60.0%	Enough	23.8	23.0	19.0	29.0
		23.9 – 29.4	8	40.0%	Good				
		29.5 – 35.0	0	0%	Very Good				
	9-18 Years	7.0 – 12.6	0	0%	Very Not Good				
		12.7 – 18.2	0	0%	Not Good				
		18.3 – 23.8	9	37.5%	Enough	25.0	25.5	19.0	29.0
		23.9 – 29.4	15	62.5%	Good				
		29.5 – 35.0	0	0%	Very Good				

Based on the results from Table 7, it can be seen that the teacher perception category on the indicator of the desire to use technology in high school in Bangko sub-district is more dominant in teachers with a working period of 1-8 years can be seen from the percentage of good and better, namely 45.8% and 12.5% and in high school Margo Tabir sub-district is more dominant in teachers with a working period of 1-8 years, it can be seen from the good percentage, which is 62% so that teachers with a working period of 1-8 years can be seen as superior.

Table 8. Description of Teacher Perceptions based on the Range of Years of Service with Indicators of the Use of Technology in Learning

Response	Working Range	Interval	F	%	Category	Mean	Med	Min	Max
High Schools in Bangko Sub-district	1-8 Years	5 – 9	0	0%	Very Not Good	19.3	18.0	16.0	25.0
		10 – 13	0	0%	Not Good				
		14 – 17	8	40.0%	Enough				
		18 – 21	8	40.0%	Good				
		22 - 25	4	20.0%	Very Good				
	9-18 Years	5 – 9	0	0%	Very Not Good	17.7	18.0	10.0	25.0
		10 – 13	1	4.2%	Not Good				
		14 – 17	9	37.5%	Enough				
		18 – 21	12	50.0%	Good				
		22 - 25	2	8.3%	Very Good				
High Schools in Margo Tabir Sub-district	1-8 Years	5 – 9	0	0%	Very Not Good	17.6	18.0	10.0	25.0
		10 – 13	1	5.0%	Not Good				
		14 – 17	8	40.0%	Enough				
		18 – 21	10	50.0%	Good				
		22 - 25	1	5.0%	Very Good				
	9-18 Years	5 – 9	0	0%	Very Not Good	18.0	18.0	14.0	25.0
		10 – 13	0	0%	Not Good				
		14 – 17	10	41.7%	Enough				
		18 – 21	12	50.0%	Good				
		22 - 25	2	8.3%	Very Good				

Based on the results from Table 8, it can be seen that the category of teacher perception on the indicator of the use of technology in learning in SMA in Bangko sub-district is more dominant in teachers with a working period of 1-8 years, it can be seen from the good percentage, which is 50% and in SMA Margo Tabir sub-district is more dominant in teachers with 1-8 years of service can be seen from the percentage that is better, namely 8.3% so that teachers with 1-8 years of service are superior.

Table 9. Description of Student Learning Outcomes in PJOK Learning Table Tennis Game Material

Response	Working Range	Interval	F	%	Category	Mean	Med	Min	Max
High Schools in Bangko Sub-	1-8 Years	1 – 4	0	0%	Very Not Good	13.9	14.0	7.0	19.0
		5 - 8	1	3.3%	Not Good				
		9 – 12	10	33.3%	Enough				
		13 – 16	10	33.3%	Good				
		17 – 20	9	30.0%	Very Good				

Response	Working Range	Interval	F	%	Category	Mean	Med	Min	Max
district		1 – 4	0	0%	Very Not Good				
	9-18 Years	5 – 8	1	3.3%	Not Good				
		9 – 12	3	10.0%	Enough	15.06	15.0	7.0	19.0
		13 – 16	16	53.3%	Good				
		17 – 20	10	33.3%	Very Good				
High Schools in Margo Tabir Sub-district	1-8 Years	5 – 9	0	0%	Very Not Good				
		10 – 13	1	3.3%	Not Good				
		14 – 17	10	33.3%	Enough	14.0	14.0	7.0	19.0
		18 – 21	10	33.3%	Good				
		22 - 25	9	30.0%	Very Good				
	9-18 Years	5 – 9	0	0%	Very Not Good				
		10 – 13	1	3.3%	Not Good				
		14 – 17	9	30.0%	Enough	14.8	15.0	6.0	18.0
		18 – 21	10	33.3%	Good				
		22 - 25	10	33.3%	Very Good				

Based on the Table 9, it can be seen that the dominant student learning outcomes are sufficient and good which can be seen in the percentage of 33.3% for both female students and good dominant male students with a percentage of 53.3% in high school in Bangko district then in high school in Margo Tabir district. for female students the dominant category is quite good and good with a percentage of 33.3% and for male students it is more dominant in the good category with a percentage of 33.3% so it can be concluded that male learning outcomes in PJOK learning are superior in Bangko sub-district high school.

Table 10. Normality test of TAM Perception on Teachers and Student Learning Outcomes

Variable	School	Sig.	Distribute
Attitude toward using	Bangko District High School	0.200	Normal
	Margo Tabir District High School	0.210	Normal
Behavioral intention use	Bangko District High School	0.100	Normal
	Margo Tabir District High School	0.200	Normal
Actual Use	Bangko District High School	0.175	Normal
	Margo Tabir District High School	0.180	Normal
Learning outcomes	Bangko District High School	0.200	Normal
	Margo Tabir District High School	0.175	Normal

Based on the results of Table 10, it can be concluded that the data is normally distributed. The normality test was obtained by the Kolmogorov-Smoirnov test, the significance value was > from 0.05. Then the linearity test of TAM perceptions on teachers and student learning outcomes at Bangko District Senior High School and Margo Tabir District High School is described in the Table 11.

Table 11. Linearity test of TAM Perception on Teachers and Student Learning Outcomes

Variable	School	Sig.	Person
TAM* Learning outcomes	Bangko District High School	0.034	linear
	Margo Tabir District High School	0.030	linear

Based on Table 11, it is known that the Deviation from linearity value of Sig. < 0.05, it can be obtained that the data on the TAM variable and student learning outcomes in each school is linear. Then, with the fulfillment of the assumption that the data is normally distributed and linear, further testing of the hypothesis can be carried out, namely the regression test as shown in Table 12.

Table 12. Regression test of Teachers' TEM Perceptions of Student Learning Outcomes

Schools	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	**Std. Error**	**Beta**		
Bangko District	63.457	3.556		12,473	0.050
High School	0.055	0.033	0.032	0.303	0.045
Margo Tabir	83.452	6.345		13,200	0.054
District High School	0.083	0.055	0.045	0.302	0.033

Based on Table 12, it can be seen that the value of sig (2-failed) < 0.05 so that the results of TAM perception have an influence on learning or learning success in PJOK subjects with table tennis sports game material.

Teacher Interview Results

The results of the interviews were obtained from several teachers who teach PJOK lessons at SMAN Bangko and SMAN Margo Tabir, namely that teachers there in the learning process use technology. Given that technology is very complex and provides many benefits, one of which makes it easier for teachers to carry out teaching and learning activities and also communicate remotely with guardians and students directly. Another teacher also added that in this modern era, technology cannot be separated from human life, I use technology in various aspects of life, especially in teaching activities. Furthermore, based on interviews conducted by the teacher, they considered that applying technology in the learning process was very important, such as using smart phones in learning that I was able to, namely PJOK by creating classrooms, group chats, and so on to facilitate communication. Then the teacher's response to technology that is developing rapidly in human life and whether it has a positive impact on student learning outcomes in PJOK lessons. According to one PJOK teacher, there is an advanced technological development which is a virtue that can make it easier in everyday life, especially in PJOK learning which makes students increase in having good learning outcomes because they can find information and communicate easily through technology such as smartphones. Other teachers argue that the development of increasingly sophisticated technology must be accompanied and also accompanied by virtuous education and can make education more quality by using various learning media that have an impact on student learning outcomes which must be improved.

Discussion

The category of teacher perception on the attitude indicator of using technology in SMA in Bangko sub-district is more dominant in male teachers and teachers with a working period of 1-8 can be seen from the percentage of good and better so that male teachers -male and teachers with a working period of 1-8 are superior. Then in SMA in Margo Tabir sub-district, male teachers are more dominant and teachers with tenure ranging from 1-8 can be seen from the better percentage so that male teachers and teachers with tenures ranging from 1-8 are superior. Then Based on the results from tables 4 and 7, it can be seen that the category of teacher perception on the indicator of the desire to use technology in SMA in

Bangko sub-district is more dominant in male teachers and teachers with a working period of 1-8 can be seen from the percentage of good and better so that male teachers and teachers with a tenure span of 1-8 were superior. Then in SMA in Margo Tabir sub-district, male teachers are more dominant and teachers with a working period of 1-8 can be seen from the good percentage so that male teachers are superior. Furthermore, based on the results from tables 5 and 8, it can be seen that the category of teacher perception on the indicator of the use of technology in learning in SMA in Bangko sub-district is more dominant in male teachers and teachers with a working period of 1-8 can be seen from the good percentage so that male teachers are superior. Then in SMA in Margo Tabir sub-district, male teachers are more dominant and teachers with tenure ranging from 1-8 can be seen from the better percentage so that male teachers and teachers with tenures ranging from 1-8 are superior.

The dominant student learning outcomes are sufficient and good which can be seen in the percentage of 33.3% for both female students and good dominant male students with a percentage of 53.3% in high school in Bangko district then in high school in Margo Tabir district. for female students the dominant category is quite good and good with a percentage of 33.3% and for male students it is more dominant in the good category with a percentage of 33.3% so that it can be seen that male learning outcomes in PJOK learning are superior in SMA Bangko sub-district. Then, a normality test was carried out to determine whether the data were normally distributed or not, namely the normality test for the perception of TAM on teachers and student learning outcomes at Bangko Subdistrict Senior High School and Margo Tabir High School Subdistrict obtained by the Kolmogorov-Smoirnov test, the significance value > from 0.05 then the TAM variable data with indicators of Attitude toward using, Behavioral intention to use, Actual Use, and learning outcomes variables are normally distributed. Then the linearity test of the perception of TAM on teachers and student learning outcomes at Bangko District Senior High School and Margo Tabir High School Sub-district is known that the Deviation from linearity value of Sig. < 0.05, it can be obtained that the data on the TAM variable and student learning outcomes in each school is linear.

Then with the fulfillment of the assumption test, it can be continued to test the regression hypothesis. Based on table 13, it can be seen that the value of Sig. < 0.05 so that the results of the perception of TAM have an influence on learning or learning success in PJOK subjects with table tennis game material. These results are reinforced by the results of interviews where teachers really take advantage of increasingly sophisticated technology in ongoing learning. Then the teacher also explained that with the teacher's technology it became easier to communicate with students even at a distance, the teacher also explained that especially in PJOK learning which made students have better learning outcomes because they were able to find information and communicate easily through technology such as smart phone.

Research that is relevant to the current research which explains that the use of teaching with multimedia technology can cover the shortcomings of traditional physical education, develop physical education, foster student lifelong sports awareness and improve physical fitness (Yu et al., 2021). Physical education is an important component of modern education, and its reforms are also a trend of every era. According to the characteristics of ordinary college table tennis groups, exploring the use of multimedia teaching platforms can make the table tennis class livelier and more interesting, letting students master some basic table tennis skills and skills in a short time. Based on this, this research was conducted by measuring the teacher's perception variable on the technology acceptance model based on gender and also the range of work period, then measuring the influence of the teacher's TAM variable on student learning outcomes and the results obtained that the teacher's perception of TAM had an effect on student learning outcomes.

This is in line with current research where previous studies have shown that rapid advances in technology over the past few decades have provided many new options for teaching and learning (Yeong et al., 2021). Although technology is being widely adopted in education, there is a paucity of research on the effects of these technologies on student learning, and why these effects occur. So that in this study an analysis of the TAM (Technology Acceptance Model) variable was carried out, namely the teacher's perception of the technology acceptance model which was regressed with student learning outcomes. Then the research that is currently being carried out uses the mixed method in which quantitative data is strengthened by cauldron data in the form of interviews.

This research is in line with previous research where previous studies also conducted research on the perception of teachers' TAM with the results that the use of Google Classroom, although it was a new experience, made them aware of how their lives as teachers could be more comfortable with the use of this technology (Santos, 2021). Where teachers' perceptions were investigated based on the main construction of the Technology Acceptance Model (TAM). And previous research which is in line with the current research, namely the results of the study show that Malaysian teachers have the intention to use VLE in their teaching. The use of VLE can increase the innovation of teaching methods that can increase students' interest in constructing knowledge through the learning process (Rashid et al., 2021). So, this research was conducted as a generalization of previous research where this study measured the perception of high school teachers' TAM on table tennis games for physical education and sports (PJOK) subjects which were regressed on student learning outcomes. The results of the study indicate that there is an effect of teacher's TAM perception on student learning outcomes in the table tennis game in physical education and sports (PJOK) subjects. With the positive acceptance of technology and through filtering from educators, it can have a good impact on learning outcomes, making the learning process more modern in line with the times without leaving Indonesian culture and morals.

This study is in line with previous research which discusses the perception of TAM where in particular, perceptions of usefulness and attitudes have a significant influence on student acceptance of m-learning (Gómez-Ramirez et al., 2019). So this research is important. The difference between previous research and current research is that the indicators used in this study are Attitude toward using, Behavioural intention to use, and Actual Use to measure teachers' TAM perceptions in high schools in teaching physical education and table tennis material. The advantages of the current study from previous research here are researchers measuring whether the teacher's perception of TAM affects student learning outcomes. Previous research also discusses the perception of TAM which discusses the TAM model where an expanded TAM model is proposed and tested in this study. Which consists of five constructs, namely: intention to use, perceived usefulness, perceived ease of use, attitudes towards use, and experience in the use of e-learning in mathematics teaching (Mailizar et al., 2021). The difference between previous research and current research is in the subjects discussed where in this study discusses the subjects of Physical Education and sports on table tennis material.

The novelty in this research is the use of the TAM variable by using three indicators consisting of Attitude toward using, Behavioural intention to use, Actual Use, in the form of teacher perceptions based on gender and the range of teacher tenure which are then regressed to the variable student learning outcomes. The researcher's recommendation for further research is to be able to conduct further research by connecting the TAM variable with other variables or learning outcomes with other variables. Researchers also suggest that further research can be carried out on other subjects.

4. CONCLUSION

Sports physical education and health subject teachers in both categories based on gender, namely male teachers are superior and based on years of service, namely teachers with a service period of 1-8 years are superior. And the perception of TAM affects learning success or learning success in PJOK subjects with table tennis sports game material. So it can be concluded that technology that continues to develop provides convenience in teaching and learning activities for physical education, sports and health lessons. Then the technology acceptance model (TAM) on the teacher has a significant effect on student learning outcomes in the table tennis game material for that teacher's positive perception and attitude towards the technology acceptance model is very important to have.

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